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1. "Czechoslovakia was the chief industrial center of the former Austro-Hungarian Monarchy. The important development of industry in this country has the origin in its mining, which is of very ancient date. Iron ore was already being mined in the 7th century; later came gold, silver and lead, mined from as early as the 13th century. As early as the 16th century brown coal was being mined and in the 17th century mining of pit-coal began near Pilsen and Kladno. The pit-coal in the Ostrava was discovered in the second half of the 18th century and its coal output was able to increase comparatively rapidly, because the steelworks of Vitkovice, which consumed large quantities of Ostrava coal, and later large quantities of coke, were already founded in 1829.

The second large steelworks in Trinec were founded a few years later and these works also consume large quantities of Ostrava coal and coke.

Therefore Czechoslovakian industry has an ancient tradition and in many branches is world-famous for the quality of its products. The coal, coke, and steel greatly participated in Czechoslovakian industrial output and export.

The following figures show the participation of different products in Czechoslovakian exports for the year 1929.

Table I

Raw materials and semi-manufactured Products

Brown coal	3,061,750 metric tons
Pit-coal	1,854,285 "
Coke	883,975 "
Brown coal briquettes	160,936 "
Wood for burning	711,536 "
Wood for grinding	196,104 "
Timber	910,942 "
Iron ore	352,448 "
Kaolin	311,824 "
Cellulose	91,538 "
Rough iron and ingots	51,832 "

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Finished Industrial Products

Steel goods	731,949	metric tons
Glassware	222,800	"
Bricks	158,539	"
Paper	152,667	"
Cotton goods	83,967	"
Machines and tools	49,872	"
Porcelain goods	34,643	"
Woolen goods	31,643	"
Agricultural machinery	20,107	"
Leatherware	14,989	"
Jute articles	14,694	"
Enamelled Hardware	11,850	"
Shoes	10,142	

Coal and coke are the most important articles in export of raw and semi-manufactured products such as steel products, and in the export of finished industrial goods.

2. The principal pit-coal basins in Czechoslovakia are as follows:

(a) The Ostrava-Karvina coal-field is situated at the eastern boundary of Moravia and Silesia and constitutes the southwest part of the upper-Silesian coal basin. The coal here is of an ancient foundation, its mining is difficult, but it gives coke of excellent quality. This coke is supplied to the largest Czechoslovakian steelworks in Vitkovice and in Trinec, is sent to the west for the supply of the Skoda Works, and to the east for the supply of the Podbrezova State Works.

(b) The Kladav-Slany-Rakovnic district, extends 20 kilometers northwest from Prague. The coal of this district was unsuitable for coke production but now, in mixture with the coal of the Ostrava district, it is used for production of metallurgical coke for the steelworks in Kladno, in Kraluv Dvur, and in the new coke-oven plant built in Kladno.

(c) The Pilsen-Radnice district supplies pit coal to another important industrial center in Czechoslovakia, Pilsen, with the famous Skoda works and large Kaolin and fire clay-industry. This district doesn't produce coke.

(d) The Rosice district near Brno in Moravia has its own little coke oven plant and it supplies metallurgical coke to many grey-iron foundries in Brno and its suburbs.

(e) The Svatonovice district in northeast Bohemia doesn't produce metallurgical coke but supplies coal to the local textile and paper industries.

(f) In the Budejovice district are occurrences of anthracite, used mainly to meet the demand of this district.

The pit coal and coke production in the Czechoslovakian Republic in 1929 was as follows:

Table 2

	District	Pit Coal	Coke
1.	Ostrava-Karvina	12,560,000 metric tons	3,113,250 metric tons
2.	Kladno-Rakovnik	2,139,478 "	
3.	Pilsen-Radnice	1,061,972 "	
4.	Svatonovice	482,776 "	
5.	Rosice	456,679 "	50,000 "
6.	Budejovice and surrounding area	about 50,000 "	
	In the whole of Czechoslovakia	16,800,000	3,163,250

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3. "In addition to the pit-coal production, Czechoslovakia is one of the greatest producers of brown coal in the world. 50X1

The brown coal output in 1929 was as follows:

Table 3

District	Country	Production in metric tons
North Bohemia	Bohemia	17,392,711
Falknov	Bohemia	4,262,537
Handlova	Slovakia	586,403
	Total	22,555,212

Czechoslovakia has a big disadvantage in being a large distance from the sea. On the other hand, this country has an important advantage, in that the centers of brown and pit-coal are located equally within the whole republic, and the expenses of coal transportation are not so severe.

Ostrava Karvina Coal District

4. "Before the nationalization of the mining industry there were nine mining companies in the Ostravo-Karvina district. The number of mines and of coke oven plants, and the total output of each company in 1929 are presented in the following tables 4 and 5.

Table 4

	Mining Company	Number of Mines	Number of Coke oven plants	Output in metric tons: Coal	Coke	Briquettes
1.	Mining and Iron works	8	3	3,985,200	1,009,300	43,000
2.	Vitkovice works	8	2	2,622,100	909,000	68,350
3.	Northern Railway	5	1	1,622,000	518,000	51,000
4.	Orlava-Lazy	4	1	1,608,000	302,000	-
5.	Count Larish-Mannich	5	1	1,564,000	177,800	-
6.	San Wilcrek	4	1	630,700	108,400	35,600
7.	Ostrava-Karvina Mining Company	1	-	282,400		
8.	State Mining Admin	1	1	151,100	88,500	
9.	Zwierzind Co	1	-	93,500		
	Total	37	10	12,560,000	3,113,300	197,950

Table 5 with the figures for every mine is given on following pages.

With the exception of a few anthracite seams with 10 to 14 percent of volatile matter, the southwest part of occurrence (in Ostrava and in the near neighborhood) give an excellent fat coking coal with 15 to 25 percent of volatile matter. This coke is especially excellent for the foundry and cupolas and is produced in the coke oven plants of Ignat and Frantishek.

In the eastern direction the amount of gaseous matter increases so that in front of the Orlova fault, (which divides the district into the eastern and western parts), the pits of Petwald in the eastern part contain a gas coal with 36 to 42 percent of volatile matter. On the other side of the Orlova fault, there are seams of relatively good coking coal with 30 to 32 percent of volatile matter.

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Table 5
Pit Coal Mines

I. Czechoslovak Mining and Iron Works Company

	Number of Seams	Thickness in Meters	dip in°	Depth in Meters	Output in 1929	Staff in 1929
1. Ignat	20	from 0.45 to 2.	from 0 to 90°	642	626,000	2,290*
2. Odra	-	"	"	-		752
3. Barbara	5	1.5 to 4.7	15°	415		1,600
4. Gabriel	8	1 4	15°	-		1,300
5. Hohenegger	8	0.9 to 2.5	15°	386		1,300
6. Hedvika	7	0.6 to 1.6	20°	450		1,520
7. Progress	5	0.9 to 2.2	8°	571		1,150
8. Ludvik	8	0.6 to 2.8	8°	572		1,080
				Total	3,985,000	

* with a coke-oven plant

II. Vitkovice Mines, Steel and Iron Works Corporation

9. Louis	coking coal for foundry's and blast furnace's coke	700	371,500	1,073
10. Deep	"	465	381,800	1,263
11. Solomon	"	762	239,500	1,075
12. Theresa	"	791	273,700	925
13. Ida	"	404	181,600	721
14. Anselm)	seam-coal of anthracite character from	512	431,500	1,322
15. Oscar)	the geologically oldest complex stratum.	373	285,500	1,193
16. Betina)	gas coal for blast furnace's	577)	456,600	1,413
17. Elenore)	coke.	605)		
		Total	2,622,100	

III. Northern Railway Company

18. Frantishek		
19. Hubert		
20. Zarubek		
21. Michal		
22. Indrych		
	Total	1,622,000

IV. Orlova-Lazy Collieries

23. Hlavni		
24. Sofie		
25. Sucha		
26. Nova		437,500
	Total	1,608,000

V. Count Larisch-Mannish's Collieries

27. Tindrich		
28. Frantishek (m)		
29. Frantishvo (f)		
30. Jan		
	Total	1,564,900

VI. San Wilcrek's Collieries

31. Trojice		
32. Michael		140,900
33. Ema		
34. San Marie		
	Total	630,700

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VII. State-Mining Administration

35. Vaclav 151,100

VIII. Ostravo-Karinna Mining Company

36. Evsen 282,400

IX. Zwierzind's Coal Mining Company

37. Josef 93,500

Grand Total 12,560,000

The coke from this part of the district is very popular, primarily as coke for heating.

5. The coke originating from the gaseous coal of the eastern district is excellent for blast furnaces. The coal from this part of the occurrence is delivered to the coke-oven plants in steel plants in Vitkovice and in Trinec, and is also transformed into metallurgical coke in the coke oven plants belonging to the pits. The coke from them is delivered to the blast furnaces at Podbrezova, Kraluv Dvur, Kladno and is also exported. The excellent quality of this coke for the blast furnaces consists in its compressive strength and also its good porosity. Also a little content of phosphorus in the ashes of this coke helps in the production from blast furnaces of pig iron of the best quality.

To give an idea of the quality of coal the following characteristic chemical analyses are given:

Table 6

	Pit	Location	Kind of coal	Carbon	% H_2	% O_2	% N_2	Total Sulfur	Combust Sulfur	Moisture	Ash	Net Calorific Value
1.	Indrich	Ostrava	fat	82	4.46	3.61	1.59	0.81	0.67	1.04	6.63	8.057
2.	Kedviko	Pewald	gas coal	72.43	4.32	8.40	1.50	0.62	0.31	3.92	9.12	7.157
3.	Betina	Drubrava	"	74.35	4.50	6.66	1.22	0.78	0.65	2.97	9.65	7.395
4.	Gabriel	Karvinna	"	73.71	4.65	6.27	1.46	0.61	0.56	3.01	4.34	7.952

The analyses and properties of the foundry coke from the west part of the district are given below: special attention is directed to its great strength in compression and its low sulfur content. Its analysis and properties are also tabulated:

Table 7

	Coke Oven Plants	
(a) Chemical Analysis:	Frantishek	Ignat
Carbon	86.72	85.86
Hydrogen	0.35	0.46
Nitrogen and Oxygen	1.86	1.40
Sulfur total	0.70	0.80
Sulfur combustible	0.52	0.48
Phosphorus	0.07	0.08
Volatile matter	0.75	0.40
Moisture	1.10	1.20
Ash content	10.30	11.80
Calorific value	7.164	7.100

(b) Physical properties:

Color: light grey, silvery luster.

Compressive strength: 200 to 300 of per sq centimeter

Strength, (according to Sinnuers-Bach)

lump coke size	over 40%	86.4	85
" " "	10 - 40%	10.4	7.1
" " "	under 10%	3.2	7.9
American drop test:	over 50%	87.30%	

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6. "On account of the excellent coking properties of the Ostrava-Karvina coal, the coke made from it was used at the very commencement of the iron and steel industry in this district. 50X1

The first ovens were installed in the fifties of the last century at the Anselm pit and the Ida pit in western part of the district. Since this beginning the capacity of the ovens and its output constantly increases.

Table 8

Year	Number of ovens working	Coke Production	Average output of an Oven in tons: per 24 hrs
1882	572	195,760	0.5
1897	1,478	929,700	1.72
1917	2,061	2,532,900	3.36
1929	1,515	3,113,200	5.9

The number of ovens decreased, but the production of coke increases, because the new ovens which replaced the oldest, have sufficiently higher output.

The output of every coke oven plant in 1929 is given in the Table 9.

Table 9

	Plants	Output in 1929
I.	Czechoslovak Mining and Iron Works Company	
	1. Ignat	462,000
	2. Hogenegger	(
	3. Trinec	(647,215
		1,109 215
II.	Vitkovice Mines, Steel and Iron Works Corporation	
	4. Karolina	693,000
	5. Vitkovice	216,000
		909,000
III.	Northern Railway Company	
	6. Frantishek	518,000
IV.	Orlova-Lazy Collierie	
	7. Lary	302,200
V.	Count Larish-Mannich's Colleries	
	8. -	177,800
VI.	San Wilcrek's Collieries	
	9. Trojice	108,400
VII.	State Mining Administration	
	10. Vaclav	88,500
	Total	3,113,200

7. " The number, the dimensions and the output of ovens in each coke oven plant in the year 1929 are given in the Table 10.

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TABLE 10

Company	Plant	Type of oven	Date of Installation	Number: Batteries	Number: Oven per battery	Number: Total	Dimensions in meters: Width	Dimensions in meters: Height	Dimensions in meters: Length	Metric Tons: Dry coal charge	Metric Tons: Output per oven per day
Mining and Iron Works	Hohenegger	1. Otto waste heat	1899	1	30		0.55	1.6	10	6.87	3.35
		2. "	1899	1	27		0.55	1.9	10	8.07	3.55
		3. "regenerative	1916	1	30	137	0.55	1.7	10	7.45	4
		4. Koppers "	1912	1	50		0.55	1.7	10	7.25	3.9
	Ignat	5. Otto waste heat	1900	2	30		0.6	1.8	9	5.31	3.35
		6. Otto Hoffman	1905	1	40		0.5	1.8	9	5.3	3.35
		7. Salein	1905	1	45		0.5	1.8	10	7.9	3.35
		8. Otto regenerative	1913	1	35	261	0.6	2	10	9.3	4.23
		9. Otto twin	1923	1	46		0.35	3	10	7.6	9.6
		10. Koppers regenerative	1926	1	35		0.45	3	10	10	9.49
	Trinec	11. Otto regenerative	1913	1	35		0.55	3.2	10	10	4.5
		12. Koppers regenerative	1925	1	60		0.34	3	11	7.6	10
		13. Koppers "	1926	1	30	153	0.34	3	11	7.6	10
		14. " "	1930	1	28		0.35	4.2	11.9	11.4	22.3
Vitkovice Works	Karolina	15. " "	1914	2	40		0.55	2.4	10	9.3	6
		16. " "	1918	1	61	216	0.55	2.7	10	10.5	7
		17. " "	1926	1	75		0.45	3.5	11.2	12.5	10
	Vitkovice	18. " "	1913	1	40		0.53	2.2	9	8.2	3.55
		19. " (twin)	1929	1	30	70	0.45	4	12.5	15.4	14.9
Northern Railway	Frantishek	20. Otto Hoffman Salein	1909	4	36		0.53	1.8	10	8.5	3.8
		21. Koppers regenerative	1912	1	82		0.55	2.4	10.25	10.2	5
		22. " "	1916	1	92	368	0.55	2.5	10.25	10.4	5.8
		23. Hill	1929	1	50		0.51	3.1	12.60	15.5	9
Orlova	Lazy	24. Otto (twin)	1925	1	55	55	0.46	2.6	10.5	10.8	8.6
Count Larrish Mannich	San	25. Otto Kaufman	1908	2	38		0.63	1.7	9.7	10.4	3
		26. Koppers	1924	1	22	125	0.34	3	10	10.2	10
		27. "	1929	1	27						
San Wilcrek	Trojice	28. Otto Kaufman	1906	2	30		0.5	1.8	10	9	3.8
		29. Koppers	1907	1	30	90	0.5	2.1	10	10.5	5.93
State (Adm)	Vaclav	30. Koppers	1921	1	40	40	0.5	2.1	10.2	9.6	6.1
		TOTAL			1,515						

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The number of ovens was again decreased some more, because all old ovens erected before the year 1910 were stopped and replaced by new ovens, which gave the same production with less number of ovens. The following items on the above table were stopped: 1, 2, 5, 6, 7, 11, 20, 25, and 28. Between the new construction, there are the ovens built in Kladno in Bohemia and in Hohenegger (Batlore) in Karvina. For the foreseeable increase of iron and steel production according to the five-year plan, the actual number of ovens is not sufficient, and new ovens must be erected.

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8. "Opposite to the former tendency to build the ovens near the pits, the new trend is the erection of new ovens in the iron and steel plants, in which the coke oven gas can be better utilized and the ovens alone can be heated by blast furnace gas, which is cheaper for its less calorific value. On the other hand the transportation of coke is more simple and the quality of coke by itself doesn't suffer during the transportation, the crushing of coke is prevented, and the run of the blast furnaces is better.

According to the five-year plan the new ovens at first were built in the Kuntchice, near Ostrava, where is located the new iron and steel plant, belonging to the Vitkovice iron and steel works. Later, the equipment and a group of skilled bricklayers had to go to Poland and after they return, this group may build the new ovens in Trinec. Also the new iron and steel works in Tuscansvy St Martin will include the new coke oven plant, supplied by the coal from Karvinna.

It is necessary to add that the wells of natural gas are discovered near Teshin and the supply of this gas for heating the open hearth furnaces in Trinec is foreseen. On the other hand the coke oven gas produced in the coke oven plants: Ignat, Frantishek, Karolina and Trojice is supplied by fat gas piped to the Vitkovice Iron and Steel Works and to Bohumin, and this gas will supply the industrial plants in Rabrek, Koprionice, Prostejov and Olomouc.

The excellent qualities of coke produced in the Ostrava Karvina district have been well known abroad and for many years the Ostrava coke had round its market especially in Poland, Austria, Hungary, Italy and in the Balkans. Some of the exports to these countries is conserved now.

9. "But relative to Poland, a new way has been found. In 1948 there was concluded an industrial agreement between Czechoslovakia and Poland. According to this agreement Czechoslovakia began to export not coke but coking coal for production of coke in Poland itself.

The reasons for this agreement between Czechoslovakia and Poland are as follows:

Czechoslovakia was not only the chief industrial center of the former Austro-Hungarian Monarchy, but was also the chief center for the industrial export from this State. The industrial export from Czechoslovakia increased after the first World War, because all other parts of Austro-Hungarian Monarchy were found to be abroad. The quality of Czechoslovak industrial goods and the skill and the individual experience of Czechoslovakian people are world-known.

On the contrary Poland is mainly an agriculture country and its industrial developed parts are only the region about Ludz (textile industry) and the regions obtained from Germany. The skill and experience of Polish industrial people are less developed than the Czechoslovakians. Poland inherited from Germany the rich pit coal basin of Upper-Silesia and was found to be the main exporter of pit-coal in Europe. After the second World War this heritage was increased again because Poland also received the part of this district, which after the first World War still remained in Germany.

Czechoslovakia owned a part of this basin too, (it is Ostrava-Karvina district) but it is only the edge of stratum, the geological structure of which is quite different than the Polish one. In Poland the seams of pit coal are horizontal and its thickness is of value of many meters. In Czechoslovakia the thickness of coal measures decreased somewhere to one half meter and the slope of seams reach 90°. It is obvious the mining of pit coal in Czechoslovakia requires more manpower and is more expensive than in Poland. The output of the pit coal industry in Czechoslovakia is not sufficient to cover all needs of this country.

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Instead in 1929 Czechoslovakia exported:

1,854,285 metric tons of pit-coal
3,069,604 metric tons of brown coal

and at the same time imported:

2,330,649 metric tons of pit-coal
107,226 metric tons of brown coal

The final balance was as follows:

Import: 2,330,649 - 1,854,285 = 476,364 metric tons of pit coal

Export: 3,069,604 - 107,226 = 2,962,378 metric tons of brown coal

The results show Czechoslovakia actually exported only brown coal, but imported more of the pit coal than it exported. The main part of imported pit coal is the pit coal from Poland. This import was directed to the regions where the price of Polish coal, including the cost of transportation, is less than the price of Ostravian coal including the cost of its transportation. These are the north-eastern regions of Bohemia. In addition, the Polish coal is excellent for the production of the producers gas, because it sinters very little.

After the world crisis the import of Polish coal decreased because the need for coal fell in the country, but during the extensive output of whole Czechoslovakian industry within and after the last war, the import of Polish coal increased again.

10. " In order to decrease the price of the Ostravian coal in its competition with the Polish coal, the Ostravian mining corporations made extensive mechanization of mining in its pits. In this field, the Ostrava district has one of the best equipped in Europe. In 1929, 83.3% of whole output was mined by mechanical means. In the course of eight years from 1921 to 1929, the productivity of one miner was doubled from 1450 to 2910 tons. After 1929 the mechanization in Ostrava district was to be more advanced.

After the second World War the need for pit coal increased again. The raising of the output of the mines by mechanical means is difficult. This raising can happen only by the increase of manpower occupied in the pits. In fact, the opposite happened; among the miners one-third of them were Germans and after the war all miners of German origin were sent to Germany. The success of the five-year plan mainly depends on the increase of the output of pit-coal mines. The solution was to be found in the conclusion of Polish-Czechoslovak industrial agreement.

11. "Poland promised to export to Czechoslovakia the lacked quantity of pit coal. Poland easily gave this promise because her export of coal to other countries was cut during the "cold war".

On the other hand Poland needs good coke for her blast furnaces, and coke produced in Polish coke oven plants hasn't sufficient quality for a good run of Polish blast furnaces. Besides, the increase of iron and steel production according to the Polish six-year plan also requires the raising of production of coke and the capacity of Polish coke oven plant is not sufficient as of now. Poland needs to import the coke from Ostrava - Karvina basin.

But the output of Czech pit coal mines is not sufficient for Czechoslovakia herself. Also production of coke in Czech coke oven plants requires the 100% supply of Czech coal. The solution was to be found in the export of Karvina gas coal to Polish coke oven plants, because the quantity of exported coal is less than the production of coke in Czech coke oven plants. Poland merely adds this coal to the mixture of their own coal and improves the quality of produced coke in their own coke oven plants.

This solution is very simple. Why wasn't this solution found long before? The explanation is as follows. The policy of Ostravian mining corporations was not to provide the export of coking coal for the production of coke abroad, but to press on the foreign customers to order the coke in Czech coke oven plants. The sale of coke was more profitable than the sale of coal, because besides the profit from sale

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of coal, the mining corporation received without charge the coke oven gas and the other by-products which could also be sold. The concluded agreement signified a reversal of the traditional Czech Policy of not selling the coking coal from Ostrava basin and helping in the solution of the old quarrel between the Czech and Polish people about the Jeshin and the Karvina regions. Because the Polish coke oven plants are old and its output doesn't satisfy the grown consumption of coke in the Polish iron and steel industry, the Czech government sends its group of skilled bricklayers to build the new coke ovens in the Polish iron and steel works.

12. In order to compare how the quality of Polish metallurgical coke improves after an addition of Czech coking coal, the Table 11 following gives the figures about the technical indices of Polish coke oven plants before and after the conclusion of Czech-Polish agreement.

[See Page 11 for Table 11]

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TABLE 11 Technical Indices of Polish Coke Oven Plants

	Name of Plant	Kg/1000 Kg of coal: Quantity of coke: Total	Quantity of coke: For blast furnace	Tar	Benzol	$(NH_4)_2SO_4$ Amm Sulfate	Coke Oven Gas: Cubic meter per ton M^3/t	Calorific value of one m^3 of gas in calories	m^3 of gas with 4000 cal per ton of coal	Production of coke per cubic meter of furnace per 24 hours	Quality of Coke: Moisture 1948	Moisture 1949	Moisture +	Ash 1948	Ash 1949	Ash +	Drum test 1948	Drum test 1949	Drum test +	Amount of dust after drum test 1948	Amount of dust after drum test 1949	Amount of dust after drum test +
1	Bobrek	735	581	29.7	12	8.5	335	4080	342	476	6.3	7.4	+1.1	13	12	-1	54	63	+9	9.4	8	-1.4
2	Florian	778	647	36.5	11.5	9	302	4160	315	1036	5.1	5.6	+0.5	12.3	12.6	+0.3	54.2	59.7	+5.5	10.4	9.7	-0.7
3	Kosciuszko	728	625	35.6	12.7	9.8	334	4600	374	682	6.6	6.8	+0.2	13.4	12	-1.4	62.9	62.2	-0.7	8.7	8.1	-0.6
4	Pouoj	674	583	31	11.6	8.3	403	3480	350	348 1949 430	17.1	16.3	-0.8	10	10.3	+0.3	50.9	49.7	-1.2	12.9	13	+0.1
5	Zygmunt	772	-	32	9.7	8.3	431	3550	383	448	9.6	-	-	12.2	-	-	52.2	-	-	11	-	-
	Average										9.6	9	+0.6	12.2	11.7	-0.5	52.2	58.6	+6.4	11	9.9	-1.1

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In 1948 the addition wasn't executed but in 1949 it was. (1949 results show addition of Czech coking coal).

This table shows that the coke oven plant "Florian" is the only one in Poland which has modern equipment. The equipment of the other four plants is very old and the same equipment in Czechoslovakia was dismantled a long time before the second war. Especially is this so at the coke oven plant "Pouoj", which has a small output and the bad quality of coke produced. After the addition of Czech coking coal, the output of this coke oven plant raised from 348 of /m^3 of volume of furnace at 24 hours to 430 of /m^3 of furnace at 24 hours, and the raising of output is almost 24% but the quality of coke was not improved.

13. " To make up for it, the quality of coke for blast furnaces greatly improved in the three other plants. The fifth coke oven plant "Zygmunt" produces coke only for foundries. On average the amount of ash in the Polish metallurgical coke decreased ½%, the drum test improved 6.4% and the amount of dust after this test dropped 11%.

This better quality of metallurgical coke improved the run of Polish blast furnaces in spite of the added burden imposed on the furnaces.

The next table (12) gives the figures showing this improvement of run of Polish blast furnaces.

Table 12

The run of Polish blast furnaces

Quality of blast furnace burden in Poland	One-half year 1948	1949 (½ yr only)	+/-	in %
% content of Fe in burden	40.2	38.8	-2.4 or	-6%
Quantity of slag in Kg/ton of iron	817	875	+58	7%
Consumption of coke in kg/ton or iron	1,045	1,053	+ 8	0.7%
To make up for it a run of blast furnaces improves as follows				
% of lost time	5.5	4.1	-1.4	-25%
Production of m^3 of volume of blast furnace	628	646	+18	2.9% "

-end-

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